



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Handwritten signature

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,226	02/16/2001	John G. Apostolopoulos	10006736-1	2518

7590 11/13/2003
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

QURESHI, AFSAR M

ART UNIT PAPER NUMBER

2667

DATE MAILED: 11/13/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,226

Applicant(s)

APOSTOLOPOULOS ET AL.

Examiner

Afsar M Qureshi

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15, 17-19 and 23-34 is/are rejected.
- 7) ☒ Claim(s) 9, 16 and 20-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment

1. Responsive to amendment received on September 08, 2003, claims 1-4, 7-9, 16, 20 and 22 entered as amended, also, added new claims 29-34.
2. In light of amendment and further explanation, rejection of claims 9, 16, 20 – 22 under 35 USC § 112 is removed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 10 and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The examiner believes that claims 10 and 17 are Markush-type claims drawn to group consisting of a plurality of alternative elements. A provisional election of a single element is required.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2667

5. Claims 1-8, 11-15, 18, 19, and 23 - 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Perkins et al. (US Patent No. 6496477).

Claims 1-3, 8, 12 and 13. Perkins teaches: a sender 103 and receiver 105 communicating data packets in a network where the packets take a plurality of paths to arrive at the destination (Col 6, lines 20-24) and (Figure 1), and a further description of the separate path selection diversity process (Col 9, lines 60-65), and two path selection process for packet flows (Col 10, lines 50-55) and further explained (Col 12, lines 25-30), where data is sent to the source regarding the path diversity scheme to be employed prior to the sending of data amongst diverse paths to a destination node (Col 13, lines 14-22).

Perkins further discloses an adaptive software module that dynamically picks paths based on QoS (*communication conditions*) (see col. 8, lines 45-49 and col. 19, lines 4-12).

Claims 4, 7, and 19 A router 1011 is used as an intermediate state routing device to assist and maintain the path diversity routing scheme employed by source and destination nodes (Col 23, lines 35-40) and (Figure 10).

Claims 5, 6, 23-25 and 29 An application is used to determine efficient path diversity by learning intermediate nodes and using QoS parameter for considerations to establish dynamic paths in a deterministic fashion (Col 16, lines 32-60).

Claims 11 and 18 Perkins teaches: real-time information as a data type extendible for the invention herein (Abstract) and more specifically to voice (Col 4, line 19).

Art Unit: 2667

Claim 14 Perkins teaches: a pair of relay agents 1021 and 1031 of diverse paths (Col 23, lines 45-50), and it is inherent to have a packet sent to a proxy device by way of an address.

Claim 15 Perkins teaches: all of the above embodiments and an IP compatibility (Col 24, lines 5-16).

Claim 26 Perkins teaches: a plurality of ISPs with redundant links working with the path diversity mechanism (Col 4, lines 63-67).

Claim 27 Perkins teaches: connection technologies of both wireless and wired (Figure 1).

Claim 28 Perkins teaches: the use of satellite, wireless, cellular and different corresponding mediums all being potential links for communication within the embodiment disclosed herein (Col 5, lines 40-51).

Claims 30 and 31 Perkins discloses that voice codecs utilize packetization schemes employing Forward Error Correction Coding (see col. 1, lines 35-44) and employing interleaving coded speech over a number of packets (see col. 6, lines 9-17).

Claim 32 Perkins employs path-hopping path diversity (see Abstract col. 4, lines 18-29).

Claim 33 Perkins discloses that the packets are assigned to paths based on real-time information (deterministic fashion) (see Summary col. 2, lines 19-25).

6. Claims 10 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al. (US Patent No. 6496477) in view of Narayanaswami et al. (US Patent No. 6477117).

Perkins teaches: all of the above embodiments of a path diversity network with the goal of improving the reliability of sensitive/realtime type data flow for a plurality of different data sources including: a wireless phone, a computer a switch router, and an interface to the PSTN network all networked together (Figure 1). But fails to teach of compatibility for wireless LAN, and more specifically the wireless protocols to include Bluetooth and 802.11. Narayanaswami teaches: a device that acts in a "PC-like" functionality to be worn on the wrist for convenience (Col 2, lines 15-16) and to interact with data exchanging network functions with devices such as: a mobile computer, a PC, and other wireless devices (Col 3, lines 30-33), and to conform to the standards of wireless LAN and wireless networking of Bluetooth and 802.11 (Cols 4-5, lines 65-3), and as is said to be a motivation for creating such a device to provide these functions at the face of a watch (Cols 1-2, lines 65-5). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the use of a multi-path networking scheme used for PCs or computers both wired and wireless to a wireless PC-like device that interacts with wireless networking protocols for added functionality and maintained flexibility with emerging technology standards.

7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Gilhousen et al. (US 5,109,390).

Perkins does not specifically disclose wherein the receiver tracks the communication quality of each path and communicates it to the sender for use in optimizing the transmission.

However, Gilhousen et al. disclose a diversity receiver that tracks the above information and provides it to diversity combiner (see col. 7, lines 36-48).

Therefore it would have been obvious to one skilled in the art, at the time of invention, to modify the computer receiver 105, disclosed by Perkins by incorporating the diversity receiver features of Gilhousen et al. in order to improve the correlation process so that discrimination against one of the paths can be achieved.

Allowable Subject Matter

8. Claims 9, 16, 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

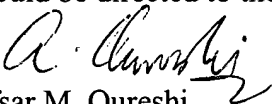
9. Applicant's arguments filed on September 08, 2003, have been fully considered but they are not persuasive. The applicant argued that the cited art, Perkins, does not appear to teach "dynamically changing path diversity during transmission", a limitation added to the original claims by amendment. The examiner discussed this limitation by citing col. 8, lines 45-49 and col. 19, lines 4-12 in the rejection of claim 1.

Art Unit: 2667

Applicant's arguments with respect to claims 10 and 17 have been considered but are moot in view of the new ground(s) of rejection as can be seen in paragraph 3 above.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M Qureshi whose telephone number is (703) 308 8542. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305 4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305 2381.


Afsar M. Qureshi
Examiner
Art Unit 2667

November 10, 2003